

Metals in Alaskan Fish
 Concentrations in parts/million wet weight

Arsenic in Alaskan Marine Fish

Species	Tissue	N	ND	Mean ± Std Dev	Median	Range
Pacific Halibut	Fillet	2084	2	1.6 ± 1.1	1.3	ND - 17
Pacific Cod	Fillet	171	0	9.2 ± 5.8	7.6	1.2 - 32
Sablefish	Fillet	242	2	0.93 ± 0.43	0.87	ND - 2.6
	Whole	5	0	0.79 ± 0.15	0.71	0.66 - 1.0
Walleye Pollock	Fillet	191	0	3.1 ± 4.7	1.4	0.42 - 38
Lingcod	Fillet	234	0	0.69 ± 0.45	0.57	0.12 - 2.6
Kelp Greenling	Fillet	11	0	0.74 ± 0.28	0.72	0.26 - 1.3
	Whole	8	0	0.69 ± 0.19	0.67	0.50 - 1.1
Rock Greenling	Fillet	2	0		0.60	0.45 - 0.74
	Whole	14	0	0.76 ± 0.31	0.70	0.39 - 1.4
Atka Mackerel	Fillet	5	0	0.62 ± 0.25	0.49	0.37 - 0.96
	Whole	4	0	0.95 ± 0.20	1.0	0.69 - 1.1
Rockfish Spp	Fillet	3	0	1.3 ± 0.36	1.1	1.1 - 1.7
Black Rockfish	Fillet	75	0	0.40 ± 0.20	0.36	0.16 - 1.6
	Whole	4	0	1.6 ± 1.1	1.2	0.60 - 3.2
China Rockfish	Fillet	1	0			0.61
Copper Rockfish	Fillet	4	0	0.78 ± 0.13	0.78	0.64 - 0.91
Dusky Rockfish	Fillet	46	0	0.49 ± 0.28	0.40	0.14 - 1.4
	Whole	14	0	0.68 ± 0.29	0.62	0.25 - 1.3
Pacific Ocean Perch	Fillet	78	0	1.2 ± 0.46	1.3	0.18 - 2.4
Quillback Rockfish	Fillet	17	0	1.4 ± 0.95	0.99	0.27 - 3.4
Rougheye Rockfish	Fillet	38	0	2.4 ± 1.5	2.0	0.22 - 6.2
Shortraker Rockfish	Fillet	8	0	1.3 ± 0.91	1.1	0.37 - 2.8
Silvery Rockfish	Fillet	8	0	0.34 ± 0.13	0.34	0.10 - 0.55
Tiger Rockfish	Fillet	1	0			0.48
Yelloweye Rockfish	Fillet	122	0	0.97 ± 0.90	0.73	0.16 - 7.1
Yellowtail Rockfish	Fillet	2	0		0.50	0.47 - 0.53
Red Irish Lord	Fillet	6	0	0.61 ± 0.15	0.57	0.44 - 0.90
	Whole	5	0	0.66 ± 0.30	0.51	0.37 - 1.1
Yellow Irish Lord	Fillet	4	0	0.76 ± 0.46	0.77	0.30 - 1.2
	Whole	8	0	0.50 ± 0.14	0.49	0.30 - 0.76
Great Sculpin	Fillet	1	0			2.9
	Whole	1	0			1.1
Shorthorn Sculpin	Fillet	0				
	Whole	0				
Starry Flounder	Fillet	2	0		2.3	1.4 - 3.1
Butter Sole	Fillet	1	0			1.7
Northern Rock Sole	Fillet	5	0	3.3 ± 1.9	3.0	1.2 - 6.4
	Whole	13	0	2.1 ± 0.93	1.9	1.1 - 3.8
Southern Rock Sole	Fillet	1	0			1.8
Salmon Shark	Fillet	108	0	1.3 ± 0.43	1.3	0.35 - 2.4
Blue Shark	Fillet	1	0			1.8
Pacific Sleeper Shark	Fillet	1	0			8.1
Spotted Spiny Dogfish	Fillet	69	0	2.8 ± 0.69	2.7	1.5 - 4.5
Big Skate	Fillet	92	0	18 ± 10	15	4.0 - 49
Longnose Skate	Fillet	94	0	20 ± 12	17	5.1 - 69

Arsenic in Alaskan Marine Forage Fish

Species	Tissue	N	ND	Mean ± Std Dev	Median	Range
Pacific Herring	Whole*	11	0	1.8 ± 0.48	1.9	0.78 - 2.7
Sand Lance	Whole*	1	0			0.83
Capelin	Whole*	1	0			0.82
Eulachon	Whole*	7	0	0.93 ± 0.039	0.92	0.87 - 0.98
Saffron Cod	Whole	10	0	6.2 ± 1.4	6.6	2.4 - 7.3
Rainbow Smelt	Whole	10	0	1.4 ± 0.56	1.3	0.68 - 2.3

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Arsenic in Alaskan Salmon

Species	Tissue	N	ND	Mean ± Std Dev	Median	Range
Chinook Salmon	Fry*	6	0	0.076 ± 0.035	0.056	0.053 - 0.13
	Juvenile*	3	0	0.70 ± 0.086	0.68	0.62 - 0.79
	Fillet	241	3	0.48 ± 0.28	0.43	ND - 1.6
	Whole	15	0	0.44 ± 0.15	0.41	0.23 - 0.74
Sockeye Salmon	Eggs	2	0		0.36	0.18 - 0.53
	Fry*	1	0			0.10
	Fillet	245	18	0.27 ± 0.12	0.26	ND - 0.95
	Whole	20	0	0.28 ± 0.084	0.27	0.12 - 0.43
Coho Salmon	Eggs	20	0	0.47 ± 0.089	0.46	0.32 - 0.63
	Testes	6	0	0.14 ± 0.020	0.14	0.12 - 0.17
	Fry*	4	2	0.075 ± 0.059	0.068	ND - 0.14
	Juvenile*	9	0	0.31 ± 0.025	0.32	0.27 - 0.35
	Fillet	325	8	0.33 ± 0.13	0.32	ND - 0.83
	belly	10	0	0.40 ± 0.14	0.37	0.21 - 0.67
	Whole	76	8	0.32 ± 0.16	0.33	ND - 0.75
	Fillet	290	14	0.24 ± 0.12	0.22	ND - 1.1
Chum Salmon	Whole	2	0		0.23	0.17 - 0.28
Pink salmon	Fillet	169	17	0.29 ± 0.13	0.26	ND - 0.85

Arsenic in Alaskan Freshwater Fish

Species	Tissue	N	ND	Mean ± Std Dev	Median	Range
Northern Pike	Fillet	291	125	0.17 ± 0.24	0.10	ND - 3.3
	Whole	40	12	0.10 ± 0.073	0.081	ND - 0.24
Rainbow Trout	Fillet	31	28	ND	ND	ND - 0.16
Lake Trout	Fillet	53	12	0.078 ± 0.047	0.072	ND - 0.24
	Whole	31	0	0.12 ± 0.051	0.12	0.051 - 0.28
Grayling	Fillet	48	39	ND	ND	ND - 0.094
	Juvenile*	0				
Arctic Char	Fillet	13	8	ND	ND	ND - 0.23
	Whole	9	0	0.13 ± 0.087	0.084	0.058 - 0.29
Dolly Varden	Fillet	22	5	0.11 ± 0.11	0.065	ND - 0.50
Sheefish	Fillet	16	0	5.8 ± 4.1	6.0	0.26 - 12
Arctic Cisco	Fillet	21	0	0.78 ± 0.15	0.74	0.57 - 1.2
Least Cisco	Fillet	26	2	0.69 ± 0.44	0.76	ND - 1.8
Broad Whitefish	Fillet	34	26	ND	ND	ND - 0.065
Humpback Whitefish	Fillet	98	29	0.13 ± 0.20	0.062	ND - 1.1
	Whole	24	1	0.12 ± 0.041	0.13	ND - 0.19
Round Whitefish	Fillet	12	12	ND	ND	ND
Burbot	Fillet	26	1	0.74 ± 1.9	0.20	ND - 8.8
Longnose Sucker	Fillet	3	3	ND	ND	ND
Arctic Lamprey	Whole	10	0	0.95 ± 0.18	0.93	0.66 - 1.3

Arsenic in Alaskan Marine Invertebrates

Species	Tissue	N	ND	Mean ± Std Dev	Median	Range
Geoduck (clam)	Tissue	2	0		0.95	0.87 - 1.0
	Viscera	12	0	2.4 ± 1.3	1.7	1.2 - 4.7
	Whole	78	0	2.2 ± 1.7	1.6	0.63 - 12
Butter Clam	Viscera	2	0		1.9	1.9 - 2.0
	Whole	65	0	4.5 ± 2.5	4.2	0.94 - 16
Pacific Littleneck Clam	Whole	96	0	3.4 ± 1.4	3.4	0.85 - 7.0
Razor Clam	Whole	45	0	0.75 ± 0.22	0.71	0.37 - 1.4
Softshell Clam	Fillet	3	0	0.63 ± 0.24	0.64	0.39 - 0.87
Cockle	Whole	11	0	0.69 ± 0.092	0.71	0.52 - 0.84
Alaskan Gaper Clam	Whole	9	0	1.2 ± 0.31	1.2	0.67 - 1.8
Arctic Surf Clam	Whole	11	0	0.69 ± 0.40	0.58	0.31 - 1.5
Pacific Oyster	Whole	386	0	0.91 ± 0.49	0.80	0.36 - 4.8

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Arsenic in Alaskan Marine Invertebrates (cont.)

Species	Tissue	N	ND	Mean ± Std Dev	Median	Range
Pacific Blue Mussel	Whole	67	0	1.0 ± 0.41	0.93	0.35 - 2.9
Weathervane Scallop	Whole	39	0	0.77 ± 0.28	0.78	0.31 - 1.2
Rock Scallop	Whole	2	0		0.32	0.31 - 0.32
King Crab	Tissue	24	0	6.0 ± 3.6	4.3	1.6 - 14
	Viscera	19	0	4.7 ± 3.0	3.6	0.32 - 11
Dungeness Crab	Tissue	131	0	7.8 ± 8.1	5.2	1.4 - 47
	Viscera	118	0	5.2 ± 4.2	3.9	1.1 - 30
Tanner Crab	Tissue	22	0	10 ± 3.5	11	3.9 - 17
	Viscera	17	0	7.2 ± 2.2	7.0	3.1 - 12
Snow Crab	Tissue	22	0	9.0 ± 2.8	8.7	4.3 - 16
	Viscera	20	0	9.8 ± 6.2	8.8	4.2 - 31
Hermit Crab	Whole	1	0			1.5
Krill	Whole	1	0			0.11
Sidestripe Shrimp	Whole	2	0		4.3	1.5 - 7.1
Spot Shrimp	Whole	1	0			21
Hairy Triton (snail)	Whole	2	0		20	15 - 25
Heros Neptune (snail)	Tissue	6	0	8.1 ± 5.3	6.7	3.6 - 18
Lyre Neptune (snail)	Tissue	10	0	6.9 ± 5.1	5.3	1.6 - 18
	Whole	8	0	17 ± 12	15	5.2 - 39
Pribiloff Neptune (snail)	Tissue	18	0	8.6 ± 5.2	6.9	2.7 - 19
	Whole	17	0	11 ± 4.7	11	1.2 - 20
Ventricosa Neptune (snail)	Tissue	8	0	6.5 ± 2.9	5.8	3.7 - 13
California Sea Cucumber	Tissue	1	0			0.41
Octopus	Whole	1	0			1.2
Squid	Whole*	5	0	0.69 ± 0.18	0.57	0.55 - 0.89